

Guide to Water-Resources Protection from International Development Projects

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Abstract

The wide-spread planning and implementation of international development projects associated with water issues have a large potential adverse impact on human health and the environment, as well as natural resources and economic development. In this article, we are concerned with water issues in their broadest terms, including: supply, quality, treatment, distribution, reuse; water pollution; wastewater generation, collection, treatment, reuse; drainage and flooding; and erosion and deposition. Several potential impacts are obvious and direct while others are indirect or secondary, and less transparent. Obvious impacts include, for example, availability of a unsafe and non-sustainable water source or supply, water pollution or degradation potential, improper water and wastewater treatment and disposal, while less transparent impacts include, for example, improper site-materials loading and storage, site modification, and debris disposal which may lead to site erosion, and downstream water pollution, erosion, deposition, and sedimentation, and back-flooding. By thinking through or brainstorming the proposed project steps and their potential adverse impacts, and accounting for site and near-site conditions, we can design a pathway to eliminate, reduce, or mitigate the potential adverse effects. This can be achieved in part through thoughtful or cognizant application and modification of provided checklists and tables.

Introduction

Since the early 1960s, hundreds of billions of U.S. dollars have been annually spent (aid-speak *invested*) by developed countries in international development projects (*interventions*). Much of this money is from federal governments, agencies, or banks, as well as perhaps a ten-fold investment by charitable (*humanitarian*) and faith-based organizations. Donors' overall goals are to reduced human suffering, improve health and education and economic development, eradicate poverty and human trafficking and child labor and need, and in some cases promote good governance, democracy and gender equity and protect minorities. In addition, donors often have an agenda to further their national interests through aid as well as to respond to internal politics, lobbying, and business interests. Donors operate on several levels, including contracts for acquisition of goods and services, grants for agreements often with non-profit organizations, loans, and direct intervention especially in response to emergency situations such as natural disasters or human conflicts.

Donors typically have environmental guidelines, standards, practices, and regulations imposed by their governments, directors, and others, such as U.S. Agency for International Development's 22CFR216 (U.S. Federal Regulations for Foreign Assistance, equivalent to the National Environmental Policy Act, as Environmental Protection), U.S. EPA Regulations, and Asian Development Bank, World Bank, World Health Organization and SPHERE standards. These typically exceed those of the aid-recipient (*host*) country and may be quite puzzling to recipients who may not appreciate them, such as required dust-control conditions for road construction in naturally windy environments or drinking-water quality standards for countries where there are little or none.

There are several approaches to protect the environment from foreign assistance actions. These include, for example: no-action (no intervention), small-scale action with limited adverse impacts, limited action without cumulative adverse impacts, action subject to defined implemented and monitored and documented conditions, conformance to specified designs which account for adverse impact avoidance and mitigation, and comprehensive or focused (limited) environmental assessment before and during the project design.

On the face of it, it should be a simple process to achieve this protection through a phased transparent, up-front process including: identifying the proposed action and its components and their individual and cumulative

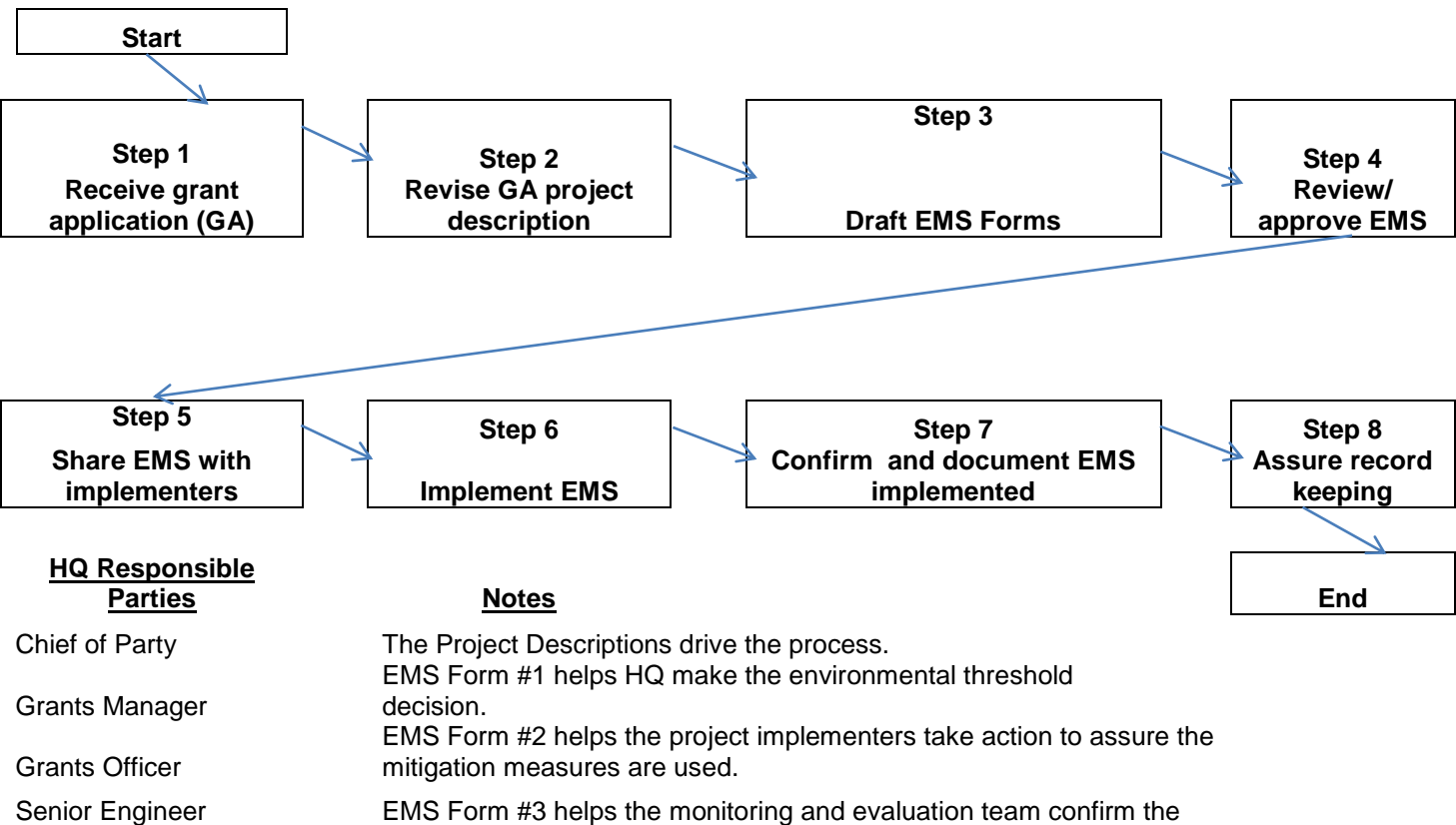
potential adverse environmental impacts, screening against some defined criteria and judgment, assessment for next steps, imposition of required conditions and standards or designs, implementation of them, monitoring and evaluation, and documentation.

Discussion

The wide-spread planning and implementation of international development projects associated with water issues have a large potential adverse impact on human health and the environment, as well as natural resources and economic development. In this article, we are concerned with water issues in their broadest terms, including: supply, quality, treatment, distribution, reuse; water pollution; wastewater generation, collection, treatment, reuse; drainage and flooding; and erosion and deposition. Several potential impacts are obvious and direct while others are indirect or secondary, and less transparent. Obvious impacts include, for example, availability of a unsafe and non-sustainable water source or supply, water pollution or degradation potential, improper water and wastewater treatment and disposal, while less transparent impacts include, for example, improper site-materials loading and storage, site modification, and debris disposal which may lead to site erosion, and downstream water pollution, erosion, deposition, and sedimentation, and back-flooding. By thinking through or brainstorming the proposed project steps and their potential adverse impacts, and accounting for site and near-site conditions, we can design a pathway to eliminate, reduce, or mitigate the potential adverse effects. This can be achieved in part through thoughtful or cognizant application and modification of provided checklists and tables which can be expanded, adjusted and modified as needed.

Table 1 below illustrates an example work-flow chart for a project headquarters' environmental management system (EMS) under a typical foreign assistance program grant or cooperative agreement. This example links to three EMS compliance forms.

Table 1. Work-Flow Chart for Project Headquarters (HQ) Environmental Management System (EMS)



mitigation measures were used.

Design and Use of Checklists and Tables

Checklists and tables (see Annexes) are commonly designed to implement environmental management systems (EMS) once program staff, counterparts, and implementing partners are oriented and trained. They should be routinely reviewed and checked against real-world field conditions, human skills capacity and resources for implementation, and regulatory frameworks – all of which may evolve, degrade, and require thoughtful updates and upgrades. Although they are useful tools, common sense must not be abandoned while ongoing findings (observations), conclusions and recommendations should be forthcoming throughout the planning, design, implementation, monitoring and evaluation, and documentation process. For example, decades ago, chlorine gas was the common water and wastewater disinfection treatment chemical, but over the years, its extremely hazardous substances properties have caused its nearly universal replacement with the much safer liquid or slurry chlorine chemical, especially in an era of security and vulnerability considerations as well as worker and community health and safety threats from accidental gaseous releases.

Conclusions

The wide-spread planning and implementation of international development projects associated with water issues have a large potential adverse impact on human health and the environment, as well as natural resources and economic development.

Water issues in their broadest terms, including: supply, quality, treatment, distribution, reuse; water pollution; wastewater generation, collection, treatment, reuse; drainage and flooding; and erosion and deposition. Several potential impacts are obvious and direct while others are indirect or secondary, and less transparent.

Obvious impacts include, for example, availability of a unsafe and non-sustainable water source or supply, water pollution or degradation potential, improper water and wastewater treatment and disposal, while less transparent impacts include, for example, improper site-materials loading and storage, site modification, and debris disposal which may lead to site erosion, and downstream water pollution, erosion, deposition, and sedimentation, and back-flooding.

By thinking through or brainstorming the proposed project steps and their potential adverse impacts, and accounting for site and near-site conditions, we can design a pathway to eliminate, reduce, or mitigate the potential adverse effects. This can be achieved in part through thoughtful or cognizant application and modification of provided checklists and tables which can be expanded, adjusted and modified as needed.

Checklists and tables are useful but in themselves not sufficient to ensure protection of human health and the environment.

Selected References

Gawande, Atul, 2011. *The Checklist Manifesto: How to Get Things Done Right*. Picador Books, 240 p.

International Organization of Standards (ISO). *14000 Standard, Environmental Management*. <http://www.iso.org/iso/iso14000>.

Solid Waste Association of North America (SWANA), www.swana.org

SPHERE emergency response standards, www.sphereproject.org

USAID Automated Directive System (ADS), www.usaid.gov/policy/ads

U.S. Agency for International Development (USAID), Development Experience Clearinghouse (DEC), dec.usaid.gov

USAID Environmental Guidelines, usaid.gov/our_work/environment/compliance/guidelines

USAID Environmentally Sound Design and Management Capacity-building for Partners and Programs in Africa (ENCAP), www.encapafrika.org

USAID Global Environmental Management System, www.usaidgems.org

U.S. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, aka Superfund), www.epa.gov/superfund/policy/cercla.htm

U.S. Code of Federal Regulations, 22CFR126, Environmental Procedures (Reg. 216), http://transition.usaid.gov/our_work/environment/compliance/22cfr216.htm#216.2

U.S. Environmental Protection Agency (USEPA), Hazardous Waste Management, www.epa.gov/epawaste/hazard

USEPA, Resource Conservation and Recovery (RCRA) – solid and hazardous wastes, www.epa.gov/epawaste/inforesources/online/index.htm

U.S. Occupational Health and Safety Administration (OHSA), www.osha.gov

U.S. Resource Conservation and Recovery Act (RCRA), www.epa.gov/osw/laws-regs/rcraguidance.htm

World Health Organization (WHO) drinking-water quality standards

Annexes

Example Checklists

Environmental Management System

Environmental Monitoring Checklist (EMMCF) Templates

Instruction: The Grantee Field Inspector will use the Environmental Mitigation Measures Checklist Form (EMMCF) below DAILY or as often required by the Grantee Manager/ Program Manager. The templates provided below may be used directly, as guidelines, or modified as field and other conditions indicate. Common sense and practicality must be used.

Please tick off the appropriate column to indicate level of compliance with the **specific** environmental mitigation measures listed below. If compliance could not be determined for a particular measure, tick the Column marked “NA” or Not Applicable. Give additional information or remarks, if any – please be specific and clear. Use the back page of the EMM form for additional space to write on or add additional rows. Submit the accomplished and signed EMMF the Grantee Manager immediately. Indicator criteria should be simple to use – visual inspection, interviews, before and during and after photographs, field tests and measurements, documents, other readily available sources.

Bridge/ Culvert Construction, Reconstruction, Repair, Renovation

Activity/ Project Title		Name of Grantee Facility Manger/ Program Manager	Signature	Date	
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/ Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.					
Dust from construction was controlled by dampening soil.					
Excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.					
The project did not cause air pollution, soil erosion, soil salinization, or downstream or upstream flooding.					
The project did not damage human health.					
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.					
The project did not degrade or pollute surface water or groundwater.					

The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Building Construction, Reconstruction, Repair, Renovation, Additions

Activity/ Project Title		Name of Grantee Facility Manager/ Program Manager	Signature	Date	
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/ Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.					
Dust from construction was controlled by dampening soil.					
Excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.					

The project did not cause air pollution, soil erosion, soil salinization, or downstream or upstream flooding.				
The project did not damage human health.				
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.				
The project did not degrade or pollute surface water or groundwater.				
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Drinking-Water Supplies - Construction, Reconstruction, Repair, Renovation

Activity/ Project Title		Name of Grantee Facility Manger/ Program Manager	Signature	Date	
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/ Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as					

hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.				
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.				
Dust from construction was controlled by dampening soil.				
Excavated soil and rock, drilling cuttings and fluid, waste materials and construction debris were removed and disposed to established dump sites or reused.				
The project did not cause air pollution, soil erosion, soil salinization, or downstream or upstream flooding.				
The project did not damage human health.				
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.				
The project did not degrade or pollute surface water or groundwater.				
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
The drinking-water source was tested for USAID-approved parameters and met USAID standards for safe drinking water.				
The drinking-water source is protected by its design and construction from surface-water pollution.				
Other - specify				

Flood-Protection Wall Construction, Reconstruction, Repair, Renovation

Activity/ Project Title		Name of Grantee Facility Manager/ Program Manager	Signature	Date
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/ Inspector	Signature	Date
Construction or Operational Period	Date Started	Name of Counterpart Staff	Signature	Date

		(Contractor)			
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.					
Dust from construction was controlled by dampening soil.					
Excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.					
The project did not cause air pollution, soil or rock erosion, soil salinization, or downstream or upstream flooding.					
The project did not damage human health.					
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.					
The project did not degrade or pollute surface water or groundwater.					
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.					
Other - specify					

Irrigation Reservoir, Canal, Drain or Ditch Cleaning - Construction, Reconstruction, Repair, Renovation

Activity/ Project Title	Name of Grantee Facility Manger/	Signature	Date

		Program Manager			
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/ Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.					
Dust from construction was controlled by dampening soil.					
Dredge spoils, excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.					
The project did not cause air pollution, soil or rock erosion, soil salinization, or downstream or upstream flooding.					
The project did not damage human health.					
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.					
The project did not degrade or pollute surface water or groundwater.					
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds,					

polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Retaining or Security Wall Construction, Reconstruction, Repair, Renovation

Activity/ Project Title		Name of Grantee Facility Manger/ Program Manager	Signature	Date	
Activity/ Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manger/ Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.					
Dust from construction was controlled by dampening soil.					
Excavated soil, waste materials and construction debris were removed and disposed to established dump sites or reused.					
The project did not cause air pollution, soil or rock erosion, soil salinization, or downstream or upstream flooding.					

The project did not damage human health.				
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.				
The project did not degrade or pollute surface water or groundwater.				
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Road Construction, Reconstruction, Repair, Renovation

Activity/Project Title		Name of Grantee Facility Manger/Program Manager	Signature	Date	
Activity/Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/Inspector	Signature	Date	
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date	
	Date Completed				
Environmental Mitigation Measures		Compliance			Remarks
		Yes	No	NA	
The project is small scale.					
The project is contained within the previous alignment or footprint.					
The project did not modify the previous land use.					
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.					

Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.				
Dust from construction was controlled by dampening soil.				
Excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.				
The project did not cause air pollution, soil or rock erosion, soil salinization, or downstream or upstream flooding.				
The project did not damage human health.				
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.				
The project did not degrade or pollute surface water or groundwater.				
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Road Construction, Reconstruction, Repair, Renovation

Activity/Project Title		Name of Grantee Facility Manger/Program Manager	Signature	Date
Activity/Project Location <i>Village, District, Province</i> Specifically:		Name of Grantee Facility Manager/Inspector	Signature	Date
Construction or Operational Period	Date Started	Name of Counterpart Staff (Contractor)	Signature	Date
	Date Completed			
Environmental Mitigation Measures		Compliance	Remarks	

	Yes	No	NA	
The project is small scale.				
The project is contained within the previous alignment or footprint.				
The project did not modify the previous land use.				
The project used only small-size tools and equipment, such as hand tools, ladders, dump trucks, water trucks, lifts, rollers, pourers, etc.				
Project construction materials and supplies originate from vendors, supplies, or existing resources from barren land or approved areas.				
Dust from construction was controlled by dampening soil.				
Excavated soil and rock, waste materials and construction debris were removed and disposed to established dump sites or reused.				
The project did not cause air pollution, soil or rock erosion, soil salinization, or downstream or upstream flooding.				
The project did not damage human health,				
The project did not degrade or destroy social, cultural, historical, archeological or habitat conditions.				
The project did not degrade or pollute surface water or groundwater.				
The project did not use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products.				
Other - specify				

Form #1 of 4. Environmental Screening Checklist (ESC) - For use by decision makers

Risk Determination:	<i>Low Risk</i>	<i>Moderate Risk</i>	<i>High Risk</i>	<i>No Risk Categorical Exclusion</i>
Mitigation Measures Required:				

Project Code:	(type here)
Type of Project:	(type here)

Project Name: (type here)	<i>GPS Coordinates</i>
Location Name: (type here)	Latitude: (type here)
Project Size: (type here)	Longitude: (type here)
Type of Ecosystem: (type here)	
Nearby Villages and Tribes: (type here)	
Senior Project Manager: (type here)	Date: (type here)
EMS office Approval: (type here)	Date: (type here)

*Please complete for relevant type of project
If not applicable, go to the following
Threshold questions*

DELETE TABLES THAT DO NOT APPLY TO YOUR PROJECT. DO NOT DELETE THE RECEPTOR/MEDIA TABLE. MODIFY TABLES TO REFLECT LOCAL EXPERIENCE, KNOWLEDGE AND CONDITIONS.

To help make the threshold determination of risk category by parameter limits:

Table of typical CBSG projects and typical parameter limits for classifying potential environmental risk

PLEASE CHECK THE EMPTY BOX TO THE RIGHT ONLY IF THE ANSWER IS YES. OTHERWISE, LEAVE IT BLANK.

Bridges: Small-Scale Construction, Repair or Renovation

PARAMETER LIMITS	LOW	MODERATE	H I G H
Does the repair and replacement of a proposed bridge project only involve the repair and decking over existing abutments or piers?			
Does the bridge rehabilitation replace foundations, change in location or size, or is a new bridge, and <u>doesn't</u> change waterway width, geological material of foundation or downstream river flow regime?			
Does the bridge change the river regime, or provide access to sensitive sites?			
Is the proposed reconstruction project less than 10 meter in length?			
Is the proposed reconstruction project between 10 and 25 meters?			
Is the proposed reconstruction project greater than 25 meters?			
Will use of construction equipment be limited to small hand tools, dump trucks, water trucks, water tanks, loaders, lifts, pourers, mixers, excavators, tractors, soil compactors, generators, compressors?			
Will heavy graders, bulldozers or other heavy equipment be used?			
Will the project have any significant change in the existing land use?			

Will the materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?			
Will the materials come from a vendor, quarry, borrow pit, or barren area?			
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?			
Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?			
Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

Buildings (Vertical Structures): Small-Scale Construction, Repair, or Renovation

PARAMETER LIMITS	LOW	MODERATE	H I G H
Does the building construction project result in less than 1,000 sq. meters of "disturbed area"? (defined as the building site plus all site preparation and materials storage areas, worker changing, sanitation, washing, eating and cooking areas, etc...)?			
Does the construction project result in between 1,000 and 2,500 sq. meters of disturbed area?			
Does the construction project result in greater than 2,500 sq. meters of disturbed area?			
Will use of construction equipment be limited to small hand tools, dump trucks, loaders, lifts, pourers, ladders, paint brushes and pails, compressors, soil compactors, wheel barrels, mixers, shovels, pick axes, water barrels, compressors, generators, personnel protective equipment?			
Will heavy graders, bulldozers or other heavy equipment be used?			
Does the proposed renovation use hazardous materials such as asbestos-containing materials, lead-based paint, volatile organic compounds, polychlorinated biphenyls, fumigants and other pesticides, or non-consumed petroleum products?			
Will the project have any significant change in the existing land use?			
Will the materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?			
Will the materials come from a vendor, quarry, borrow pit, or barren area?			
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?			
Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?			
Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

Culverts: Small-Scale Construction, Repair or Renovation

PARAMETER LIMITS				H I G H
	LOW	MODERATE		
Does the repair and replacement of a proposed culvert project only involve the repair and decking over existing abutments or piers?				
Does the culvert rehabilitation replace foundations, change in location or size, or is a new bridge, and <u>doesn't</u> change waterway width, geological material of foundation or downstream river flow regime?				
Does the culvert change the river regime, or provide access to sensitive sites?				
Will use of construction equipment be limited to small hand tools, dump trucks, water trucks, water tanks, loaders, lifts, pourers, mixers, excavators, tractors, soil compactors, generators, compressors?				
Will heavy graders, bulldozers or other heavy equipment be used?				
Will the project have any significant change in the existing land use?				
Will the materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?				
Will the materials come from a vendor, quarry, borrow pit, or barren area?				
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?				
Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?				
Will the project contribute to erosion or flooding?				
Will the project contribute to human health risk?				
Will the project contribute to social, cultural, historical, archeological or habitat risk?				
Other- specify				

Flood-Protection/Controls (Walls, Gabions): Small-Scale construction, Repair or Renovation (in existing drainage ways)

PARAMETER LIMITS				H I G H
	LOW	MODERATE		
Is the flood-protection wall or gabion less than 100 linear meters and does not affect the river flow regime or cause downstream damage?				
Is the flood-protection wall or gabion between 100 m to 500 linear meters and not affect the river flow regime?				
Is the flood-protection wall or gabion greater than 500 linear meters total, or will impact downstream areas?				
Will the project be within an existing drainage way or flood-protection alignment?				
Will use of construction equipment be limited to small hand tools, hammers, pliers, clamps, dump trucks, water trucks, water tanks, loaders, lifts, pourers, mixers, excavators, tractors, soil compactors, generators, compressors?				
Will heavy graders, bulldozers or other heavy equipment be used?				
Will the wall materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?				
Will the wall materials come from a vendor, quarry, borrow pit, or barren area?				
Will the project have any significant change in the existing land use?				
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?				
Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?				

Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

Irrigation Reservoirs, Canals, Drains, Ditches, Tanks, Piping: Small-Scale Construction, Cleaning, Repair or Renovation

PARAMETER LIMITS	LOW	MODERATE	H I G H
Does the irrigation project involve only cleaning or de-silting of an existing water delivery and drainage system, regardless of size, including any repair or restoration of existing functioning structures or systems, which does not create any additional irrigated land by less than 100 hectares., or is the <u>new</u> irrigation project less than 100 hectares?			
Does the rehabilitation of existing irrigation system expand the system between 100 and 1,000 hectares, or is the <u>new</u> irrigation project between 100 and 1,000 hectares?			
Does the rehabilitation of existing system create additional irrigated land by more than 1,000 hectares, or is the <u>new</u> irrigation project greater than 1,000 hectares?			
Is the cleaning project more than 15 kilometers in length?			
Is the cleaning project between 15 and 30 kilometers?			
Is the cleaning project greater than 30 kilometers?			
Will use of construction equipment be limited to small hand tools, pick axe, wheel barrel, hammers, pliers, clamps, dump trucks, water pumps, water tanks, water piping, loaders, lifts, pourers, mixers, excavators, tractors, soil compactors, generators, compressors, personnel protective equipment?			
Will heavy graders, bulldozers or other heavy equipment be used?			
Does the proposed project involve more than cleaning, de-silting, and/or repair or improvement of an existing water delivery, storage, or drainage system, regardless of size?			
Does the project increase the area irrigated?			
Will the project adversely impact upstream or downstream water use?			
Will the project have any significant change in the existing land use?			
Will the materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?			
Will the materials come from a vendor, quarry, borrow pit, or barren area?			
Will the dredge spoils, excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?			
Will the dredge spoils, excavated soil, waste, material and construction debris removed be deposited in a new dump site?			
Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

Roads (Gravel): Small-Scale construction, Repair or Renovation

PARAMETER LIMITS	LOW	MODERATE	H I G H
Is the road rehabilitation project less than 15 kilometers in length and have less than			

30% of total road re-aligned?			
Is the road rehabilitation project between 15 and 30 kilometers in length and less than 30% realignment?			
Is the road rehabilitation project greater than 160 kilometers in length or have more than 30% realignment?			
Is the <u>new</u> road construction project greater than 1 kilometer in length or provide access to sensitive areas?			
Will the project be within an existing alignment?			
Will use of construction equipment be limited to tools, dump trucks, loaders, lifts, pourers, jack hammers, compressors, generators, water trucks, water tanks, small tractors, small soil compactors and rollers, soil vibrators?			
Will heavy graders, bulldozers or other heavy equipment be used?			
Will the road be a gravel road?			
If a gravel road, will the road materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?			
Will the road materials come from a vendor, quarry, borrow pit, or barren area?			
Will the road be paved or asphalted?			
Will the road modify or repair culverts?			
Will the project have any significant change in the existing land use?			
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?			
Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?			
Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

Surrounding Walls: Small-Scale Construction, Repair or Renovation

			H I G H
PARAMETER LIMITS	LOW	MODERATE	
Is the surrounding wall project less than 3 kilometers in length and have less than 30% of total wall re-aligned?			
Is the surrounding wall project between 3 and 6 kilometers and less than 30% realignment?			
Is the surrounding wall rehabilitation project greater than 6 kilometers in length or have more than 30% realignment?			
Is the <u>new</u> surrounding wall construction project greater than 1 kilometer in length or provide access to sensitive areas?			
Will use of construction equipment be limited to tools, dump trucks, loaders, lifts, pourers, jack hammers, compressors, generators, water trucks, water tanks, small tractors, small soil compactors and rollers, soil vibrators, excavators?			
Will heavy graders, bulldozers or other heavy equipment be used?			
Will the materials come from a source that does not adversely disturb the natural or physical environment or lead to soil or rock erosion?			
Will the materials come from a vendor, quarry, borrow pit, or barren area?			
Will the project have any significant change in the existing land use?			
Will the excavated soil, waste, material and construction debris be removed be reused or deposited in an existing dump site?			

Will the excavated soil, waste, material and construction debris removed be deposited in a new dump site?			
Will the project contribute to erosion or flooding?			
Will the project contribute to human health risk?			
Will the project contribute to social, cultural, historical, archeological or habitat risk?			
Other- specify			

DO NOT DELETE THIS TABLE.

To help make the threshold determination by receptor or media:

Table of screening-threshold questions to help make the threshold determination

RECEPTOR OR MEDIA	THRESHOLD QUESTIONS - Answer yes if impact is significant*	YES	NO
Air	1) Will the project result in air pollution or dust emission problems beyond just short-term, localized impacts during the construction period?		
Surface Water	1) Will the project discharge or concentrate human or animal waste, chemical (pesticides), or biological matter (fertilizer, manure, etc...) in such a way as to degrade the physical, chemical, or biological quality of surface water?		
	2) Will the project cause degradation such sedimentation, saltation (salinization) or changes to hydrologic flow regimes of adjacent or nearby water bodies?		
	3) Will the project leave stagnant (non-moving) water that can stagnant and provide habitat for mosquitoes?		
	4) Will the project cause flooding?		
Groundwater	1) Will the project discharge of concentrate human or animal waste, chemical (pesticides), or biological matter (fertilizer, manure, etc...) in such a way as to degrade the physical, chemical, or biological quality of groundwater?		
	2) Will the project decrease the groundwater supply?		
	3) Will the project affect soil salinity or result in water logging that threatens crop productivity?		
Land and Soil	1) Will the project purchase, store, use and/or dispose of pesticides of other hazardous chemicals?		
	2) Will the project increase soil erosion by wind or water?		
	3) Will the project discharge or concentrate human or animal waste, chemical, or biological matter (fertilizer, manure, etc...) in such a way as to degrade the physical, chemical, or biological quality of the soil?		
	4) Will rock, gravel, sand or other materials from NEW borrow pits be used in the project?		
	5) Will the project make the soil or land salty?		
Nuisance or Disruptive	1) Will the project interrupt supplies of household water, energy or water for irrigation?		
	2) Will the project cause bad odors or excessive noise?		
	3) Will the project cause the site and vicinity to have bad views?		

Habitat for Native Plants and Animals	1) Will the project have significant impact (e.g., occupy, encroach upon, discharge to, or otherwise act upon) on sensitive area, such as a wetland, habitat of threatened or endangered plants and animals, or provide greater ease of access to relatively un-degraded forests, wetlands or habitats?		
	2) Will the project result in significant land clearing or removal of existing native plants?		
Cultural and Social Impacts	1) Will the project have significant impact (e.g., occupy, encroach upon, discharge to, or otherwise act upon) on sensitive or potentially sensitive cultural assets such as mosques, unmarked cemeteries, archaeological sites or landscapes containing evidence of prior ancient human presence?		
	2) Will the project have undesirable impacts on local social norms or expectations or come into conflict with locally practiced behaviors, such and land use? Will the activity cause an increase in ethnic or tribal tensions?		
	3) Are there problems with identifying ownership or tenure arrangements? Are there problems with obtaining agreements from the owner or manager the property for the project?		
	4) Will there be situations/ issues that the engineer/project manager cannot resolve?		
Human Health	1) Will the project purchase, store, use and/or dispose of pesticides or other hazardous chemicals?		
	2) Will the project discharge or concentrate any human or animal waste or other waste without adequate health precautions?		
	3) Will the project result in air pollution or dust emission problems beyond just short-term impacts during the construction period?		
	4) Will the project cause a health or safety concern for workers or the public?		
Waste and Debris	1) Will excavated soil, dredge spoils, and construction waste and debris be collected, stored, or disposed in a manner causing risk to the environment, habitats, flooding, or human health?		
Cumulative	1) Are there many other projects in the area whose cumulative or total impacts will cause a significant environmental risk?		
Other			

Complete Mitigation Checklist (MC) to mitigate impacts.

If NO to all Threshold questions, consider best management practices for minor impacts.

If not applicable, go to Supplement Determination Report (SDR).

* A "significant" impact is one which has or is likely to have a **major** effect or importance. Significance is **determined by magnitude, context, probability and intensity**. A proposed action has a **significant** effect on the environment if it does **major** harm (magnitude) to the environment, alters the overall environmental context in a detrimental manner, and has a **high probability** of occurring. Context means the geographic, social, and environmental setting of the project. Both short-term and long-term impacts must be considered. "Intensity" is the severity of the potential impact.

Form #2 of 4. Mitigation Checklist (MC) - For use by project implementers

Project Code:	(type here)	
Type of Project:	(type here)	
Project Name:	(type here)	GPS Coordinates
Location Name:	(type here)	Latitude: (type here)

Project Size: (type here)	Longitude: (type here)
Type of Ecosystem: (type here)	
Nearby Villages and Tribes: (type here)	
Senior Project Manager: (type here)	Date: (type here)
EMS office Approval: (type here)	Date: (type here)

DELETE TABLES THAT DO NOT APPLY TO YOUR PROJECT.

MODIFY TABLES TO REFLECT LOCAL EXPERIENCE, KNOWLEDGE AND CONDITIONS.

No.	Potential Environmental Impacts	Mitigation Action	Receptor	Mitigation Measures (Controls)
Bridges: Small-Scale Construction, Repair or Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
	Flooding from channel changes, or deposition of excavated soil and construction debris causing siltation, sedimentation, and flooding	Flood and erosion control	Soil, Land, Water	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
Buildings (Vertical Structures: Small-Scale Construction, Repair, or Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or

				silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil, surface water and groundwater pollution from hazardous materials (lead-based paints, solvents, asbestos-containing materials)	Materials control	Soil, Land, Water	Avoid using hazardous materials; if they must be used, use minimal amounts, provide training for proper use, storage, and disposal; monitor safe use and disposal.
	Soil, surface water and groundwater pollution from bathroom waste and solid wastes	Waste management	Soil, Land, Water	Manage wastewater and solid waste to avoid polluting soil, surface water and groundwater with removal, treatment and disposal program.
	Unsafe and unhealthy conditions for workers and the public from hazardous construction materials (lead-based paints, solvents, asbestos-containing materials)	Materials control	Human Health	Avoid using hazardous materials; if they must be used, use minimal amounts, provide training for proper use, storage, and disposal; monitor safe use and disposal.
Culverts: Small-Scale Construction, Repair or Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.

	Flooding from channel changes, or deposition of excavated soil and construction debris causing siltation, sedimentation, and flooding	Flood and erosion control	Soil, Land, Water	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
Flood-Protection/Controls (Walls, Gabions): Small-Scale Construction, Repair, Renovation (in existing drainage ways)				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
	Flooding from channel changes, or deposition of excavated soil and construction debris causing siltation, sedimentation, and flooding	Flooding and erosion control	Soil, Land, Water	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
Irrigation Reservoirs, Canals, Drains, Ditches, Tanks, Piping: Small-Scale Construction, Cleaning, Repair, Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing

	construction debris			dumps or reuse excavated soil and construction debris.
	Flooding from channel changes, or deposition of excavated soil and construction debris causing siltation, sedimentation, and flooding	Flood and erosion control	Soil, Land, Water	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
Roads (Gravel): Small-Scale Construction, Repair or Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; minimize re-alignment; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
	Flooding from channel changes, or deposition of excavated soil and construction debris causing siltation, sedimentation, and flooding	Flood and erosion control	Soil, Land, Water	Minimize channel and drainage changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.
Surrounding Walls: Small-Scale Construction, Repair or Renovation				
	Dust during construction	Dust control	Air	Minimize the disturbed work area; minimize re-alignment; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.
	Soil and rock erosion from soil/ rock borrow areas, site excavation, piling of excavated soil, and construction	Erosion control	Soil and Land	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse

				excavated soil and construction debris.
	Soil and surface runoff degradation from stacked or piled excavated soil and construction debris	Erosion control	Soil, Land, Water	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.

Form #3 of 4. Environmental Monitoring and Evaluation Plan - For use by monitoring and evaluation team

Project Code: (type here)		<i>GPS Coordinates</i>
Type of Project: (type here)		
Project Name: (type here)		
Location Name: (type here)		
Project Size: (type here)		
Type of Ecosystem: (type here)		Latitude: (type here)
Nearby Villages and Tribes: (type here)		Longitude: (type here)
Senior Project Manager: (type here)		Date: (type here)
EMS Office:		Date: (type here)
Monitoring Period:		

**DELETE TABLES THAT DO NOT APPLY TO YOUR PROJECT.
MODIFY TABLES TO REFLECT LOCAL EXPERIENCE, KNOWLEDGE AND
CONDITIONS.**

No.	Mitigation Methods (Controls)	Responsible Party	Monitoring Methods		
			Indicators	Methods	Frequency
Bridges: Small-Scale Construction, Repair or Renovation					
	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after

	them in covered barrels or silos.				
	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Clear channel, limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
Buildings (Vertical Structures): Small-Scale Construction, Repair, or Renovation					
	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after

	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
	Avoid using hazardous materials; if they must be used, use minimal amounts, provide training for proper use, storage, and disposal; monitor safe use and disposal.	Designated grantee representative, Program Engineer	No hazardous waste odors, accumulation, containers	Field visual observations, field interviews, before-during-after photographs	Before, during, after
	Manage wastewater and solid waste to avoid polluting soil, surface water and groundwater with removal, treatment and disposal program.	Designated grantee representative, Program Engineer	No wastewater odors, open wastewater, solid-waste accumulation	Field visual observations, field interviews, before-during-after photographs	During and after
	Avoid using hazardous materials; if they must be used, use minimal amounts, provide training for proper use, storage, and disposal; monitor safe use and disposal.	Designated grantee representative, Program Engineer	No hazardous waste odors, accumulation, containers	Field visual observations, field interviews, before-during-after photographs	Before, during, after
Culverts: Small-Scale Construction, Repair or Renovation					

	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after
	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Clear channel, limited soil or debris piles	Field visual observations, field interviews, before-during-after photographs	During and after
Flood-Protection/Controls (Walls, Gabions): Small-Scale Construction, Repair or Renovation (in existing drainage ways)					
	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed; cover soil and	Designated grantee representative, Program Engineer	No complaint s. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-	During, weekly and after

	aggregate materials, dampen them with water spray, or store them in covered barrels or silos.			after photographs	
	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; disposal to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Clear channel, limited soil or debris piles	Field visual observations, field interviews, before-during-after photographs	During and after
Irrigation Reservoirs, Canals, Drains, Ditches, Tanks, Piping: Small-Scale Construction, Cleaning, Repair, Renovation					
	Minimize the disturbed work area; dampen the soil with water sprays around the area being disturbed.	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after

	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; disposal to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
	Minimize channel changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Clear channel, limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
Roads (Gravel): Small-Scale Construction, Repair or Renovation					
	Minimize the disturbed work area; minimize re-alignment; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after

	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; disposal to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
	Minimize channel and drainage changes; store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Clear channel and drainage ways, limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after
Surrounding Walls: Small-Scale Construction, Repair or Renovation					
	Minimize the disturbed work area; minimize re-alignment; dampen the soil with water sprays around the area being disturbed; cover soil and aggregate materials, dampen them with water spray, or store them in covered barrels or silos.	Designated grantee representative, Program Engineer	No complaints. Limited dust and haze. Good visibility	Field visual observations, field interviews, before-during-after photographs	During, weekly and after

	Take soil/rock from approved borrow areas, barren areas, or vendors; store soil and debris to avoid erosion; disposal to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs, sales receipts	During and after
	Store excavated soil and construction debris to avoid impacts; dispose to existing dumps or reuse excavated soil and construction debris.	Designated grantee representative, Program Engineer	Limited soil or debris piles or stacks	Field visual observations, field interviews, before-during-after photographs	During and after

Form #4 of 4. Supplemental Determination Report (SDR)

Project Code:	(type here)	
Type of Project:	(type here)	
Project Name:	(type here)	<i>GPS Coordinates</i>
Location Name:	(type here)	Latitude: (type here)
Project Size:	(type here)	Longitude: (type here)
Type of Ecosystem:	(type here)	
Nearby Villages and Tribes:	(type here)	
EMS Coordinator:		Date:
Approved by COP:		Date:

Description of the Proposed Activity:

(type here)

Environmental Situation and Trends:

(type here)

Applicable Afghanistan Environmental Standards:

(type here)

Evaluation of the Proposed Activity and Potential Environmental Impacts:

(type here)

Summarize Environmental Mitigation Action Plan (attach MC):

(type here)

Recommended Determination

	Categorical Exclusion
	Negative Determination without Conditions: <i>Activity begins without mitigation measures and with only normal monitoring of activity required</i>
	Negative Determination with Conditions: <i>Activity begins with required mitigation measures and monitoring of those approved mitigation measures in place</i>
	Positive Determination: <i>Activity requires a separate scoping statement and EA must be conducted and approved prior to activity commencing</i>